<center>REMARKS</center>

In the Office Action dated June 21, 2000, claims 1-15 are noted as pending and subject to an election requirement, claims 4-6 have been withdrawn from consideration and claims 1-3 and 7-15 have been rejected. In accordance with the telephone call of June 13 between Examiner and the undersigned, Applicant affirms the election to prosecute the invention of Group I, including claims 1-3, and 7-15. Examiner has objected to drawing figures 1, 2 and 5. Red-line changes to the informal drawings have been submitted. Examiner has also objected to the specification. In objecting to the specification, the Examiner has requested that line 8 of the Summary and Abstract be corrected by replacing "dries" with --drives--. This correction was made in a previous Preliminary Amendment mailed on January 29, 1999. Examiner has also requested a correction on page 10. Applicant respectfully requests the Examiner to enter amendments to the Specification as listed above.

REJECTIONS UNDER 35 U.S.C. §112

Examiner has rejected claims 1, 8-11 and 15 under 35 U.S.C. §112, second paragraph, as being vague and indefinite for using the phrase, "adapted to." Applicant has amended claims 1, 8-11 and 15 in order to better define the invention. Applicant respectfully requests withdrawal of this rejection.

REJECTIONS UNDER 35 U.S.C. §102(b)

Examiner has rejected independent claim 1 under 35 U.S.C. §102(b) as being anticipated by Anderson, U.S. Patent No. 5,225,904. Applicant respectfully submits that claim 1, as amended, is not anticipated by Anderson.

Anderson discusses a computer system capable of multi-threaded disk drive operation and striping, through the use of an "interrupt software module." (Col. 1, lines 10-13). Under Anderson, a computer system including two disk drives achieves multi-threaded disk drive operation and disk striping through the use of software instructions executed by the CPU. (Col. 7, lines 11-14). These instructions, which are typically part of the BIOS (basic input output system), are used to "translate ... commands from the operating system into data for the

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appropriate internal registers of the first disk drive interface and the second disk drive interface."
(Col. 7, lines 15-16; Col. 8, lines 9-12).

In contrast, claim 1, as amended, states:

> A striping disk controller and disk drive system for a computer system
> wherein said computer system includes a CPU connected to a system bus
> and executes an operating system including a BIOS, said striping disk
> controller and disk drive system comprising:
>
> an interface connected to said system bus and communicating with
> said BIOS;
>
> first and second disk drives each having data separator electronics,
> data formatting electronics and head positioning electronics;
>
> <u>a striping controller connected between said first and second disk</u>
> <u>drives and said interface</u>, said striping controller designed to cause data
> being communicated between said system bus and said first and second
> drives to be written to and read from said first and second drives in an
> interleaved form and substantially in parallel.
> (Claim 1, as amended)(Emphasis added).

Claim 1, as amended, discloses a disk drive system that achieves disk striping through the use of a disk striping controller connected between two disk drives and a bus interface. When the operating system of claim 1 issues an access request (read or write instruction) to a logical disk drive, the BIOS translates the request into the appropriate disk drive instruction and issues the instruction via the system bus to the appropriate disk drive interface. The striping controller, connected to the disk drive interface, translates the instruction into two separate instructions for the first and second physical disk drives. In contrast, under <u>Anderson</u>, the BIOS translates an operating system access request into two separate instructions, one for each physical disk drive, and then both instructions are placed on to the system bus. (Col. 8, lines 9-12). <u>Anderson</u> does not disclose the use of a striping disk controller. Consequently, <u>Anderson</u> does not anticipate claim 1.

Claim 2 is directly dependent on claim 1 and is not anticipated by <u>Anderson</u> at least for the reason stated above.

The Examiner has rejected independent claim 7 under 35 U.S.C. §102(b) as being anticipated by <u>Anderson</u>. Applicant respectfully submits that claim 7, as amended, is not anticipated by <u>Anderson</u>.

As noted above in connection with claim 1, under <u>Anderson</u>, when the operating system issues an access request in striping mode to a logical disk drive, the BIOS translates the request into two instructions, one for each of the first and second physical disk drives. (Col. 8, lines 8-12). Therefore, under <u>Anderson</u>, striping is achieved not by using a striping disk controller, but by executing BIOS instructions and placing one instruction on the bus for each disk drive.

Claim 7, as amended, states:

A method of writing data onto two disk drives using a striping controller connected to system bus, said method comprising:
<u>receiving at a striping controller a system request intended for a single physical drive from the system bus</u>; and
writing to and reading from a first and a second drive in an interleaved form and substantially in parallel in response to said system request. (Claim 7, as amended)(Emphasis added).

Claim 7, as amended, teaches a method wherein writing to and reading from a first and second drive in an interleaved form and substantially in parallel is achieved by receiving a single request from the system bus. Under claim 7, the system request placed on the bus and intended for a single physical drive is translated by the striping controller into two instructions, one for the first drive and one for the second drive. The method of striping discussed in <u>Anderson</u> does not use a striping disk controller and requires two instructions to be placed on the system bus, one for each of the first and second disk drives. Therefore, <u>Anderson</u> does not anticipate claim 7.

The Examiner has rejected independent claim 8 under 35 U.S.C. §102(b) as being anticipated by <u>Anderson</u>. Applicant respectfully submits that claim 8 is not anticipated by <u>Anderson</u>.

Claim 8 as amended discloses:

<u>A striping disk controller</u> comprising:
an interface connectable with a system bus and communicating data via said system bus; and
control logic connected with said interface designed to cause data being communicated via said system bus to be written to and read from a first and a second disk drive in an interleaved form and substantially in parallel. (Claim 8, as amended)(Emphasis added)

Claim 8 teaches a striping disk controller. The striping disk controller of claim 8 is connectable with a system bus via an interface and contains control logic that makes striping

possible. Anderson does not teach a striping disk controller connected to the bus via an interface. Anderson achieves disk striping by executing stored BIOS instructions. (Col. 8, lines 8-12). Therefore, <u>Anderson</u> does not anticipate claim 8.

Claims 9 and 11 are directly dependent on claim 8 and are not anticipated by <u>Anderson</u> at least for the reason stated above.

The Examiner has rejected independent claim 12 under 35 U.S.C. §102(b) as being anticipated by <u>Anderson</u>. Applicant respectfully submits that claim 12 is not anticipated by <u>Anderson</u>.

Claim 12 states:

An apparatus for writing data onto two disk drives connected to system bus, said apparatus comprising:
means for <u>receiving a system request intended for a single physical drive from the system bus</u>; and
means for writing to and reading from a first and a second drive in an interleaved form and substantially in parallel in response to said system request. (Claim 12)(Emphasis added)

Claim 12 teaches an apparatus that has means for striping by receiving a system request intended for a single drive from the system bus. In contrast, <u>Anderson</u> discusses a system of striping wherein the BIOS translates a single request into two instructions. The result, under <u>Anderson</u>, is that two instructions are placed on the system bus, one for each disk drive. In contrast, claim 12 teaches an apparatus with a means for receiving a system request intended for a single physical drive. Therefore, <u>Anderson</u> does not anticipate claim 12.

Claim 13 is directly dependent on claim 12 and is not anticipated by <u>Anderson</u> at least for the reason stated above.

The Examiner has rejected independent claim 15 under 35 U.S.C. §102(b) as being anticipated by <u>Anderson</u>. Applicant respectfully submits that claim 15 is not anticipated by <u>Anderson</u>.

As discussed above in connection with independent claims 1, 7, 8 and 12, <u>Anderson</u> discusses a computer system capable of multi-threaded disk drive operation and striping, through the use of an "interrupt software module." (Col. 1, lines 10-13).

In contrast, claim 15 states:

A striping disk controller and disk drive system for a computer system wherein said computer system includes a CPU connected to a system bus and executes an operating system including a BIOS, said striping disk controller and disk drive system comprising:

means for interfacing with said system bus and communicating with said BIOS;

first and second storage means each having data separator electronics, data formatting electronics and head positioning electronics;

a controller means connected between said first and second storage means and said means for interfacing, said controller means to cause data being communicated between said system bus and said first and second storage means to be written to and read from said first and second storage means in an interleaved form and substantially in parallel.
(Claim 15, as amended)(Emphasis added)

Claim 15 teaches a striping disk controller and disk drive system. The striping disk controller and disk drive system of claim 15 has a controller means connected between first and second storage means and means for interfacing. Anderson does not teach a controller means connected between storage means and a means for interfacing. Anderson achieves disk striping by executing stored BIOS instructions. Therefore, Anderson does not anticipate claim 15.

REJECTIONS UNDER 35 U.S.C. §103(a)

Examiner has rejected dependent claims 3, 10 and 14 under 35 U.S.C. §103(a) as being obvious in view of Anderson and Jenkins, U.S. Patent No. 4,047,157. With respect to claims 3, 10 and 14, Examiner states that Anderson discusses a system wherein the CPU executes BIOS instructions to transfer data or commands to the internal registers of the first disk drive including "data such as the physical location on the first disk drive from which the data file will be read." However, Examiner adds, "Andersen fails to specifically teach that the system request includes a sector bit string, a head bit string, a track bit string and a driver bit." Additionally Examiner states, "Jenkins teaches a controller for use in a data processing system wherein in the track/sector register, Track Address and Sector Address bit positions identify, respectively, the track and sector on a disk to be involved in a transfer." Finally, the Examiner concludes that it would have been obvious for one of ordinary skill in the art to combine Anderson and Jenkins and modify the system taught by Anderson to include a sector bit string, a head bit string, a track bit string and a driver bit in the system request.

Applicant respectfully submits that claim 3 is not obvious in view of <u>Anderson</u> and <u>Jenkins</u>. Claim 3 is dependent on claim 1. Independent claim 1 teaches a striping controller connected between an interface and two disk drives to cause data being communicated between the interface and the disk drives to be read from and written to two disk drives in an interleaved form and substantially in parallel. As discussed above in connection with claim 1, <u>Anderson</u> does not disclose the use of a striping disk controller. <u>Anderson</u> achieves disk striping through the use of an "interrupt software module." (Col. 1, lines 10-13).

<u>Jenkins</u> discusses a controller for a secondary mass storage device such as a disk drive. The controller described in <u>Jenkins</u> "receives commands over the bus which include command information about the operation to be performed, the drive to be used, the size of the transfer, the starting address on the drive for the transfer, and the starting address in some other system element, such as a random access memory unit." (Col. 1, lines 46-58). However, <u>Jenkins</u> does not discuss using a controller to cause data to be communicated between a bus and two disk drives in an interleaved form substantially in parallel. Consequently, claim 3, which is dependent on claim 1, is not obvious in view <u>Anderson</u> and <u>Jenkins</u>.

Applicant respectfully submits that claim 10 is not obvious in view of <u>Anderson</u> and <u>Jenkins</u>. Claim 10 is dependent on claim 8. As discussed above, claim 8 teaches a striping disk controller comprised of control logic to cause data being communicated between a system bus and two disk drives to be read from and written to the disk drives in an interleaved form and substantially in parallel. <u>Anderson</u> achieves disk striping through an interrupt software module and does not discuss a disk striping controller connected between an interface and two disk drives.

<u>Jenkins</u> discusses a disk controller, however, <u>Jenkins</u> does not discuss a striping controller. Unlike the controller discussed in <u>Jenkins</u>, the striping controller of claim 8 causes data being communicated between the system bus and two disk drives to be read from and written to the disk drives in an interleaved form and substantially in parallel. Nothing in <u>Jenkins</u> suggests using a controller to read from and write to two disk drives in an interleaved form and substantially in parallel. Therefore, dependent claim 10 is not obvious in view of <u>Anderson</u> and <u>Jenkins</u>.

Applicant respectfully submits that claim 13 is not obvious in view of <u>Anderson</u> and <u>Jenkins</u>. Claim 13 is dependent on claim 12, which teaches an apparatus with means for striping by receiving a system request intended for a single drive from the system bus. As discussed above in connection with claim 12, <u>Anderson</u> does not discuss an apparatus with a means for striping two disk drives by receiving from a system bus a system request intended for a single disk drive.

<u>Jenkins</u> discusses a controller for a secondary mass storage device such as a disk drive. However, <u>Jenkins</u> does not discuss or suggest a controller with means for reading from and writing to two disk drives in an interleaved form in response to a system request intended for a single physical drive. Therefore, dependent claim 13 is not obvious in view of <u>Anderson</u> and <u>Jenkins</u>.
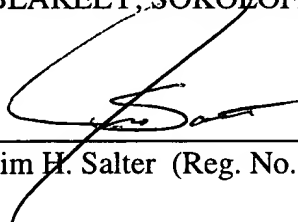
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CONCLUSION:

In view of the foregoing, Applicant submits that claims 1-3 and 7-15 are distinguished over the cited art and are in condition for allowance. Allowance of claims 1-3 and 7-15 is respectfully requested.

If a telephone conference would facilitate the prosecution of this application, the Examiner is invited to contact Jim H. Salter at (408) 720-8300. If there are any additional charges, please charge them to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated:_____9/5____, 2000

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Name of Person Mailing Correspondence

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Signature   Date